

REMARKS

The Office Action dated April 30, 2008, has been received and carefully noted. The following remarks are submitted as a full and complete response thereto. Claims 29-38, 43-44, and 54-60 are currently pending, of which claims 29, 54, and 59-60 are independent claims.

In view of the following remarks, Applicants respectfully request reconsideration and timely withdrawal of the pending rejections to the claims for the reasons discussed below.

Claim Rejections under 35 U.S.C. §103(a)

Claims 29-38, 43-44, and 54-60 were rejected under 35 U.S.C. §103(a) as being unpatentable over Handley, *et al.* (“Network Working Group,” March 1999) (“Handley”) in view of Nuutinen (U.S. Patent No. 6,865,681) (“Nuutinen”), and further in view of Goldfine, *et al.* (U.S. Patent No. 5,343,529) (“Goldfine”). Applicants respectfully submit that the claims recite subject matter that is neither disclosed nor suggested in the combination of Handley, Nuutinen and Goldfine.

Claim 29, upon which claims 30-38 and 43-44 depend, recites an apparatus that includes a transmitter configured to send, during a subscriber equipment terminated call, a session invitation message to a subscriber equipment. The session invitation message includes authentication information. The apparatus also includes a determiner configured to determine whether a verification of the authentication is required. The apparatus also

includes a processor configured to, if the verification is not required, forward a scheduled result to a network control element by including the scheduled result into the session invitation message. The processor is also configured to, if the network control element has to perform the verification, receive the scheduled result from another network control element, wherein the scheduled result is included in the session invitation message, extract the scheduled result from the session invitation message, forward the session invitation message without the scheduled result to the subscriber equipment, verify an authentication result with the scheduled result, and repeat the verification for a predetermined number of times using different authentication information.

Claim 54, upon which claims 55-58 depend, recites a method that includes sending, during a subscriber equipment terminated call, a session invitation message from a network control element to the subscriber equipment. The session invitation message includes authentication information. The method also includes determining, by the network control element, whether the network control element has to perform a verification of the authentication or not. In case the network control element does not have to perform the verification, the method continues by forwarding a scheduled result to a second network control element by including the scheduled result into the session invitation message. In case the network control element has to perform the verification, the method continues by receiving the scheduled result from another network control element, wherein the scheduled result is included in the session invitation message, extracting the scheduled result from the session invitation message, forwarding the

session invitation message without the scheduled result to the subscriber equipment, verifying an authentication result with a scheduled result, and repeat the verification for a predetermined number of times using different authentication information.

Claim 59 recites a computer program embodied on a computer-readable medium. The computer program includes computer code for causing a processor to perform operations that include sending a session invitation message from a network control element to the subscriber equipment. The session invitation message including authentication information. The computer program also includes operations for determining, by the network control element, whether the network control element has to perform a verification of the authentication or not. In case the network control element does not have to perform the verification, the operations continue by forwarding a scheduled result to a second network control element by including the scheduled result into the session invitation message. In case the network control element has to perform the verification, the operations continue by receiving the scheduled result from another network control element, wherein the scheduled result is included in the session invitation message, extracting the scheduled result from the session invitation message, forwarding the session invitation message without the scheduled result to the subscriber equipment, and verifying an authentication result with a scheduled result, and repeat the verification for a predetermined number of times using different authentication information.

Claim 60 recites an apparatus that includes a sending means for sending, during a subscriber equipment terminated call, a session invitation message to the subscriber equipment. The session invitation message including authentication information. The apparatus also includes a determining means for determining whether a verification of the authentication is required and a transceiver means for forwarding a scheduled result to a second control network by including the scheduled result into the session invitation message, if the verification is not required. If the verification is required, the transceiver means is configured for receiving the scheduled result from another network control element, where the scheduled result is included in the session invitation message. Also, the apparatus includes an extracting means for extracting the scheduled result from the session invitation message and to forward the session invitation message without the scheduled result to the subscriber equipment, a verification means for verifying an authentication result with a scheduled result, and repeat the verification for a predetermined number of times using different authentication information.

As will be discussed below, the combination of Handley, Nuutinen and Goldfine would fail to disclose or suggest every claim feature recited in claims 29-38, 43-44, and 54-60, and therefore fails to provide the features discussed above.

Handley is directed to SIP protocol. In Hadley, the INVITE message indicates that a user or service is being invited to participate in a session. The message contains a description of the session to which the callee is being invited. A user that wishes to authenticate itself with a server may include an authorization request-header field with

the request. The authorization field value consists of credentials containing the authentication information of the user agent. Handley further describes a Proxy-Authorization request-header field that allows the client to identify itself to a proxy which requires authentication. Handley further states that “unlike Authorization, the Proxy-Authorization header field applies only to the next outbound proxy that demanded authentication using the Proxy-Authenticate field” (Handley, Abstract).

Nuutinen is directed to a secure voice over internet protocol (VoIP) terminal that includes a modular security manager for use in conjunction with a protocol stack. In Nuutinen a security manager includes a plurality of interfaces to the stack. The interfaces may include a security stack interface (SSA) between an SIP manager of an SIP stack and the security manager, a security terminal interface (SST) between a telephony application and the security manager, a security media interface (SSM) between the security manager and a media controller, and a security manager application interface (SMA) between the security manager and a security application (PGP) outside the stack (Nuutinen, Abstract).

Goldfine is directed to a transaction authentication using a centrally generated transaction identifier that is specific to each transaction request to assure that the access information being transmitted from point to point in the system is different for each transaction attempt (Goldfine, Abstract; col. 2, line 8, to col. 3, line 14).

Applicants respectfully submit that the Office Action failed to establish a *prima facie* case of obviousness regarding the rejections of claims under 35 U.S.C. §103(a) based on the teachings of Handley, Nuutinen, and Goldfine.

Assuming *arguendo* that the teachings of Handley could be combined with the teachings of Nuutinen and the teachings of Goldfine, the combination of Handley, Nuutinen, and Goldfine would fail to disclose or suggest every feature recited in claim 29, and similarly recited in claims 54 and 59-60. Specifically, the combination would fail to disclose or suggest, at least, “a processor configured to...if the network control element has to perform the verification...extract the scheduled result from the session invitation message, forward the session invitation message without the scheduled result to the subscriber equipment, verify an authentication result with the scheduled result, and repeat the verification for a predetermined number of times, wherein different authentication information are used” as recited in claim 29, and similarly recited in claims 54 and 59-60.

As acknowledged in the Office Action mailed on June 4, 2007, Handley fails to disclose or suggest, at least, “a processor configured to...if the network control element has to perform the verification...extract the scheduled result from the session invitation message, forward the session invitation message without the scheduled result to the subscriber equipment, verify an authentication result with the scheduled result” as recited in claim 29, and similarly recited in claims 54 and 59-60.

As indicated in the Office Action mailed on April 30, 2008, Handley further fails to disclose or suggest, at least, “a processor configured to...if the network control element has to perform the verification... repeat the verification for a predetermined

number of times, wherein different authentication information are used” as recited in claim 29, and similarly recited in claims 54 and 59-60.

The Office Action alleged that Goldfine discloses “verify an authentication result with the scheduled result, and repeat the verification for a predetermined number of times, wherein different authentication information are used,” citing column 2, lines 46-65 of Goldfine (See Office Action on pages 3 and 4). Applicants respectfully disagree that Goldfine discloses or suggests the aforementioned features recited in claim 29, and similarly recited in claims 54 and 59-60.

Rather, Goldfine merely discloses a flexible transaction authentication architecture that can be used to meet the security needs of a diversity of transactions, such as authorizing a call to a remote access port of a telecommunication network or a cellular mobile radio call to access the network, allowing remote access to a computer network, identifying a user as an authorized electronic funds transfer agent or legitimate user of interactive television services, and permitting physical access to a secured location (Goldfine, col. 2, lines 46-55).

Goldfine further discloses that each of these transactions has different points of vulnerability to eavesdropping from the outside or compromise by dishonest insiders. The inventive architecture permits use of transformation and/or encryption of the authentication information at different points in the system dependent on an analysis of the particular application’s vulnerabilities. In any event, the authentication information

will be different for each transaction attempt, greatly impeding or entirely foiling efforts to successfully complete an unauthorized transaction (Goldfine, col. 2, lines 55-65).

Hence, Goldfine merely discloses that transformation and/or encryption of authentication information at different points in a system may be performed to prevent an authorized transaction or access to a system. Goldfine fails to disclose or suggest, “verify an authentication result with the scheduled result, and repeat the verification for a predetermined number of times, wherein different authentication information are used” as recited in claim 29, and similarly recited in claims 54 and 59-60.

Furthermore, none of the cited prior art references discloses or suggests, “a processor configured to...if the network control element has to perform the verification...extract the scheduled result from the session invitation message, forward the session invitation message without the scheduled result to the subscriber equipment” as recited in claim 29, and similarly recited in claims 54 and 59-60 (See Office Action on pages 3-6 (emphasis added). In fact, the Office Action failed to address these claim features altogether.

Therefore, Applicants respectfully submit that the Office Action failed to substantiate a *prima facie* case of obviousness regarding the rejections of claims 29-38, 43-44, and 54-60 under 35 U.S.C. §103(a), demonstrating that the cited prior art references disclose or suggest every feature recited in the claims.

Claims 30-38 and 43-44 depend from claim 29. Claims 55-58 depend from claim 54. Accordingly, claims 30-38, 43-44, and 55-58 should be allowable for at least their dependency upon an allowable base claim, and for the specific limitations recited therein.

Therefore, Applicants respectfully request withdrawal of the rejections of claims 29-38, 43-44, and 54-60 under 35 U.S.C. §103(a) and respectfully submit that claims 29, 54, and 59-60, and the claims that depend therefrom, are in condition for allowance.

CONCLUSION

In conclusion, Applicants respectfully submit that the combination of Handley, Nuutinen and Goldfine would fail to disclose or suggest every feature recited in claims 29-38, 43-44, and 54-60. The distinctions previously noted are more than sufficient to render the claimed invention non-obvious. It is therefore respectfully requested that all of claims 29-38, 43-44, and 54-60 be allowed, and this present application be passed to issuance.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, Applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



Brad Y. Chin
Attorney for Applicants
Registration No. 52,738

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-6212
Telephone: 703-720-7800
Fax: 703-720-7802

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